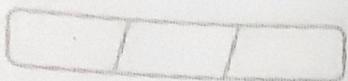


3/2
3/2
3/2

6
12



Ejercicios sobre parábola

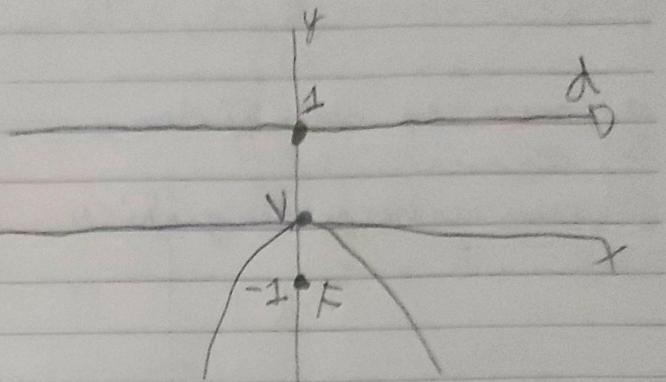
① $x^2 = -4y$

$$2P = -4$$

$$P = -2$$

$$\frac{P}{2} = -1$$

$$y = 1$$



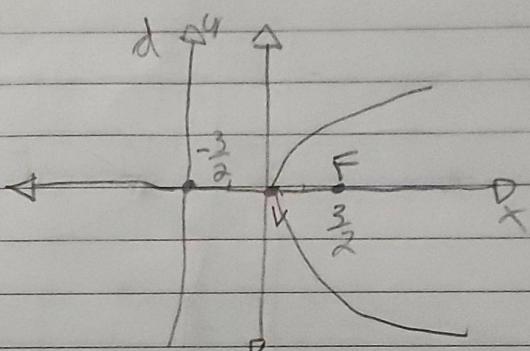
② $y^2 = 6x$

$$2P = 6$$

$$P = 3$$

$$\frac{P}{2} = \frac{3}{2}$$

$$x = \frac{-3}{2}$$



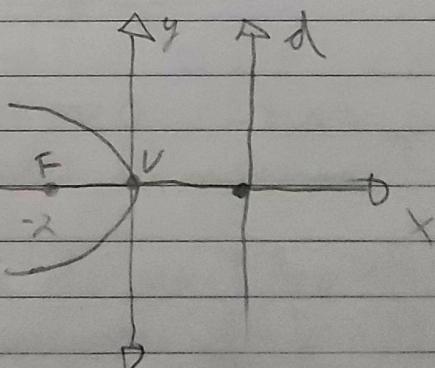
③ $y^2 = -8x$

$$2P = -8$$

$$P = -4$$

$$x = 2$$

$$\frac{P}{2} = -2$$



④ $x^2 + y = 0$

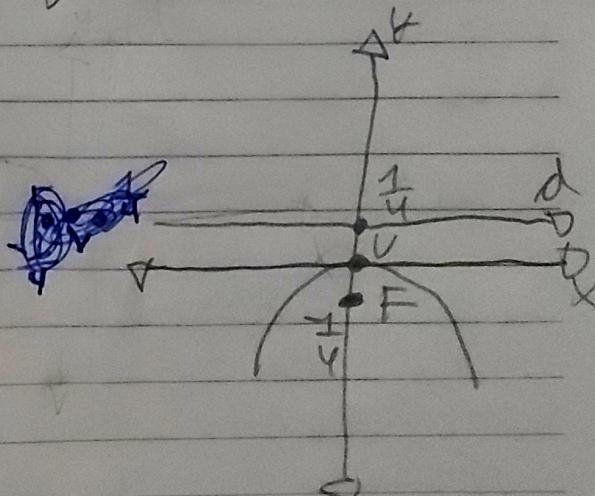
$$2P = -1$$

$$x^2 = -y$$

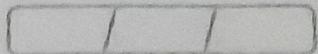
$$P = -\frac{1}{2}$$

$$y = \frac{1}{4}$$

$$\frac{P}{2} = -\frac{1}{4}$$

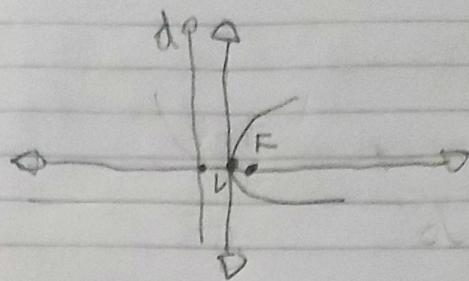


314
2P0,195
20

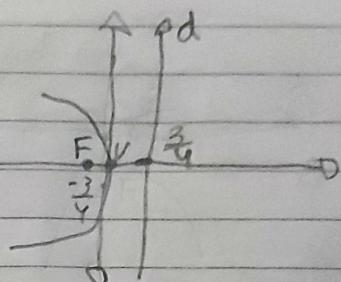


$$\textcircled{5} \quad y^2 - x = 0 \quad 2P = 1 \\ y^2 = x \quad P = \frac{1}{2}$$

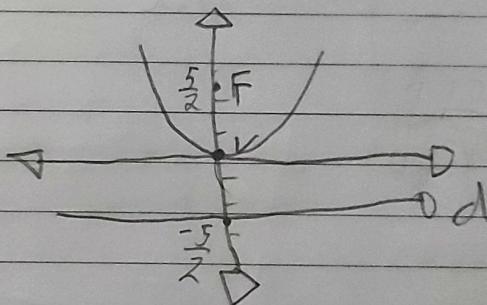
$$x = \frac{-1}{4} \quad P = \frac{1}{4}$$



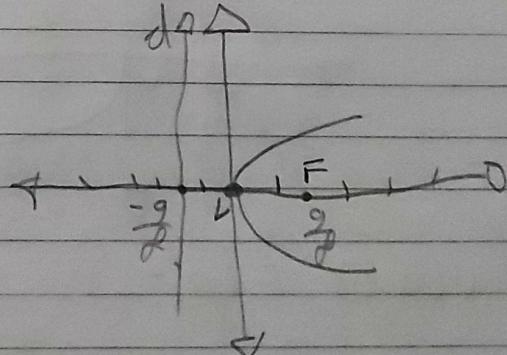
$$\textcircled{6} \quad y^2 + 3x = 0 \quad 2P = -3 \\ y^2 = -3x \quad P = -\frac{3}{2} \\ x = \frac{3}{4} \quad \frac{P}{2} = -\frac{3}{4}$$



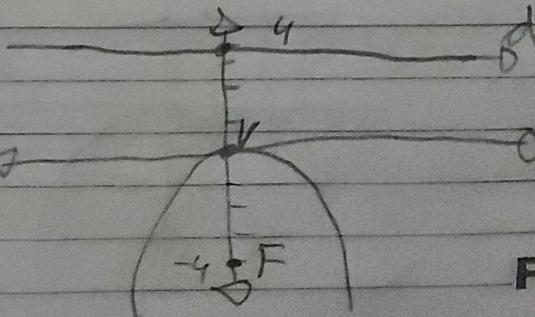
$$\textcircled{7} \quad x^2 - 10y = 0 \quad 2P = 10 \\ x^2 = 10y \quad P = 5 \\ y = \frac{x^2}{10} \quad \frac{P}{2} = \frac{5}{2}$$



$$\textcircled{8} \quad 2y^2 - 9x = 0 \quad 2P = \frac{9}{2} \\ y^2 = \frac{9x}{2} = \frac{9}{2}x \quad P = \frac{9}{4} \\ x = -\frac{9}{P} \quad \frac{P}{2} = \frac{9}{8}$$

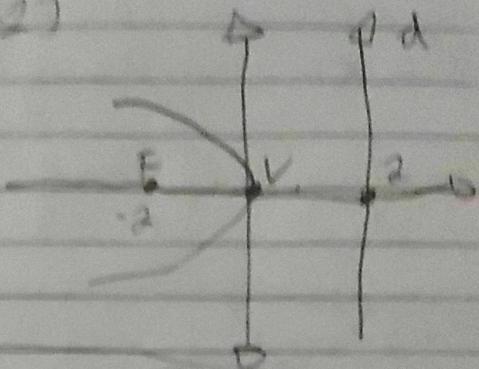


$$\textcircled{9} \quad y = \frac{x^2}{16} \quad x^2 = -16y \\ 2P = -16 \quad P = -8 \\ x = 4 \quad \frac{P}{2} = -4$$

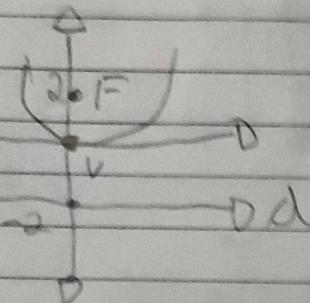


FORON:

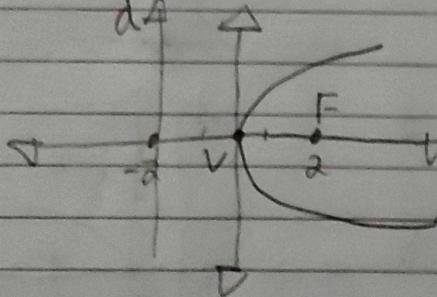
(10) $x = -\frac{y^2}{p}$ $-y^2 = px$ $y^2 = -px$
 $2p = -8$ $x = 2$
 $p = -4$
 $\frac{p}{2} = -2$



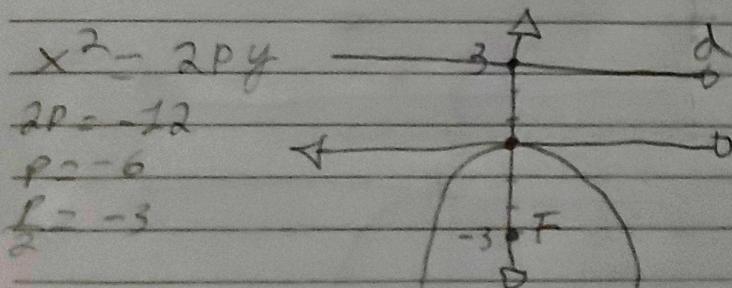
(11) $V(0,0)$ $d: y = 2$ $\left\{ \begin{array}{l} x^2 = 2py \\ x^2 = 2 \cdot 4y \end{array} \right.$
 $\frac{p}{2} = 2$ $p = 4$
 $2p = 8$
 $x^2 = 2 \cdot 4y$
 $x^2 = 8y$



(12) $F(2,0)$ $d: x+2=0$ $\frac{p}{2} = 2$
 $d: x=-2$
 $\frac{y^2}{4} = 2x$
 $y^2 = px$
 $p = 4$
 $2p = 8$

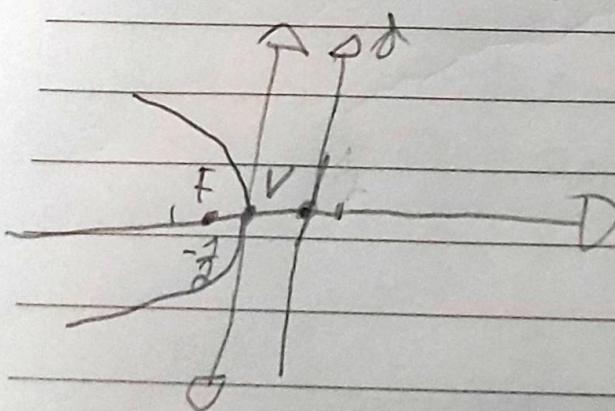


(13) $V(0,0), F(0,-3)$ $d = 3y$



FORON:

(14) $V(0,0)$ $F(-\frac{1}{2}, 0)$ $y^2 = 2px$ $d: x = \frac{1}{2}$



$$2p = -2$$

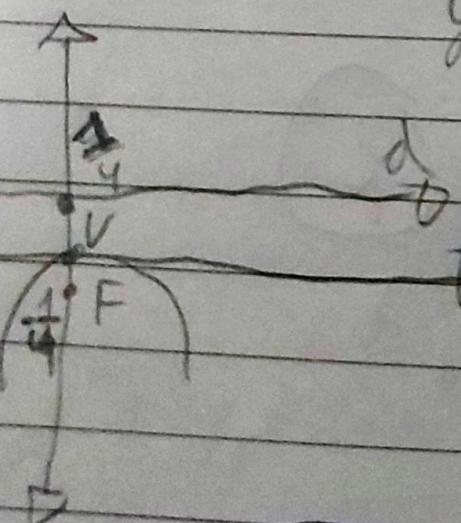
$$P = -1$$

$$\frac{P}{2} = -\frac{1}{2}$$

$$y^2 = 2 \cdot (-2)x$$

$$y^2 = -4x$$

(15) $F(0; \frac{1}{4})$ $d: 4y - 1 = 0$ $x^2 = 2py$ $x^2 = -y$

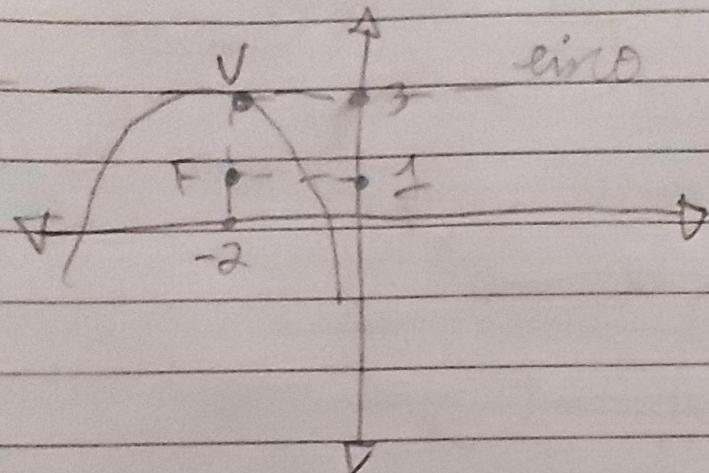


$$2p = -1$$

$$P = -\frac{1}{2}$$

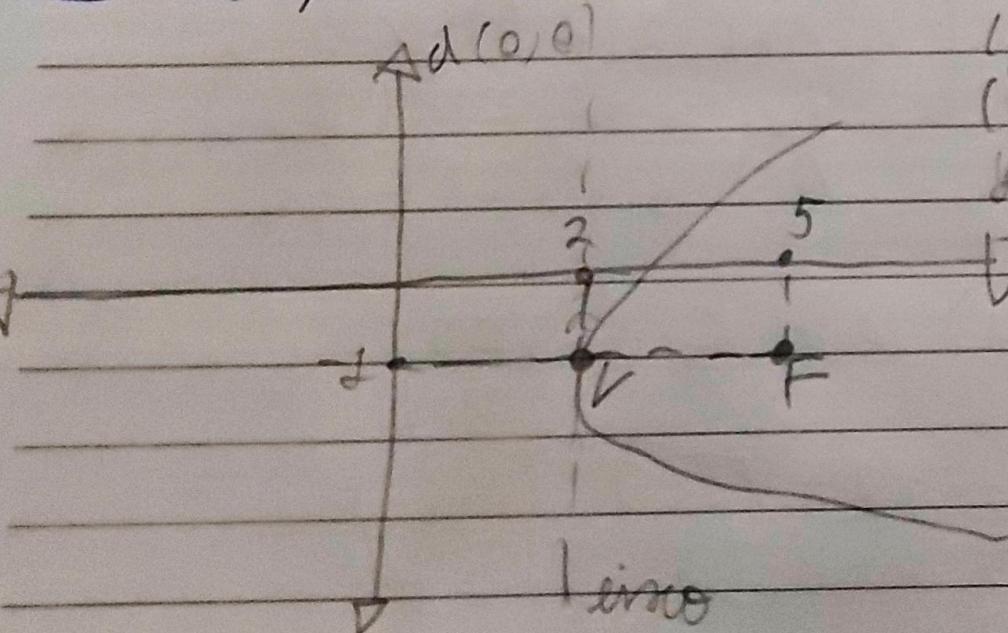
$$\frac{P}{2} = -\frac{1}{4}$$

$$\textcircled{18} \quad V(-2, 3) \quad F(-2, 1)$$



$$\begin{aligned} (x - (-2))^2 &= 2p(y - 3) \\ (x + 2)^2 &= 4(y - 3) \\ x^2 + 4x + 4 &= 4y - 12 \\ x^2 + 4x + 8 - 4y &= 0 \end{aligned}$$

$$\textcircled{19} \quad V(2, -1) \quad F(5, -1)$$



$$\begin{aligned} (y - k)^2 &= 2p(x - a) & p = 2 \\ (y - (-1))^2 &= p(x - 2) & \frac{p}{2} \\ (y + 1)^2 &= px - 2 & p = 4 \\ y^2 + 2y + 1 &= px - 2 & 2p = 8 \end{aligned}$$

$$y^2 + 2y + 1 - 8x = 0$$

(20) $V(4, 1)$ ~~$F(5, 2)$~~ $\delta: y+3=0 \rightarrow y=-3$

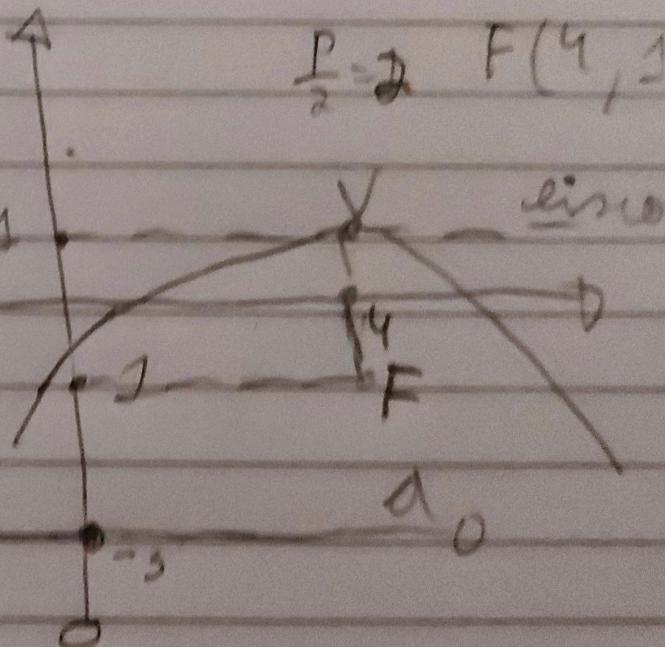
$$(x-a)^2 = 2p(y-k)$$

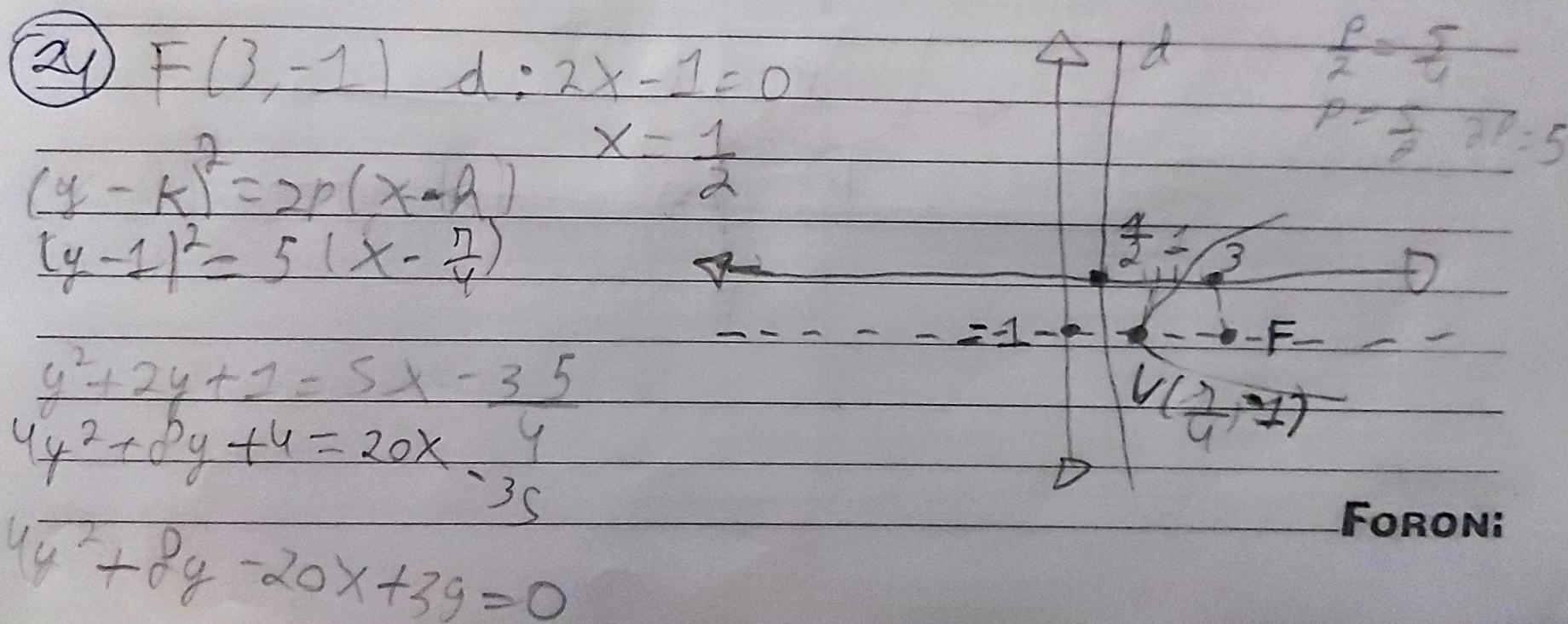
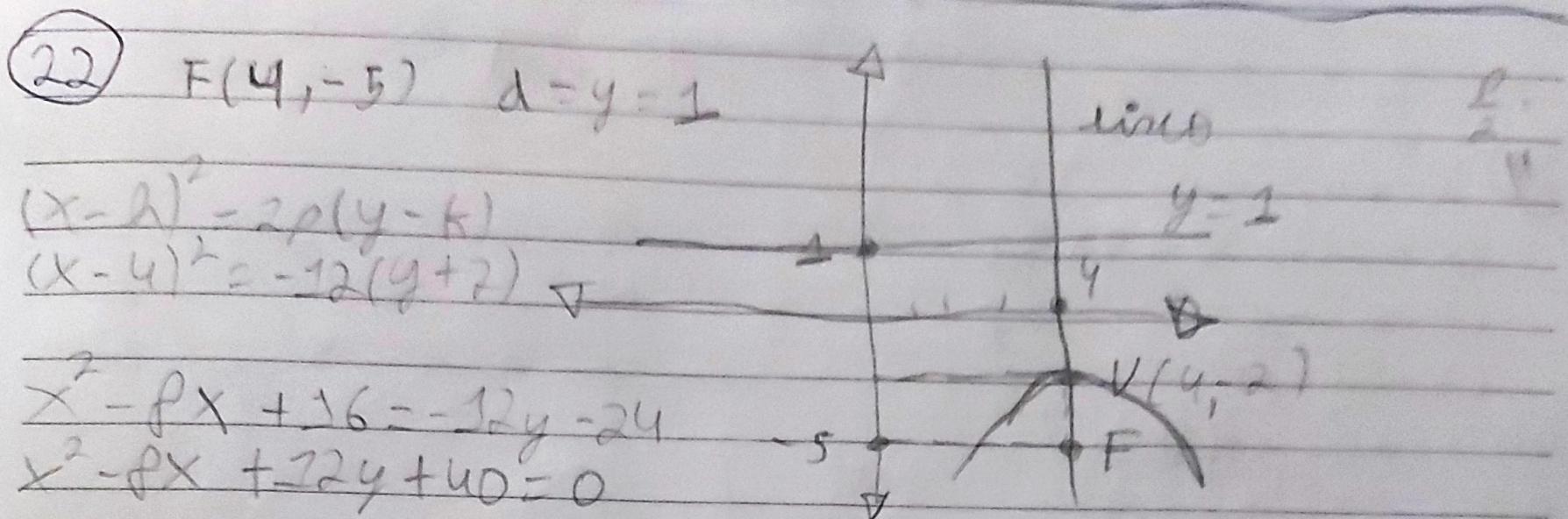
$$(x-4)^2 = -2(y-1)$$

$$x^2 - 8x - 16 = -2y + 2$$

$$x^2 - 8x - 14 + 2y = 0$$

$$\frac{P}{2} = 2 \quad F(4, 1 - 2p)$$





(29)

$$x^2 + 4x + 8y + 12 = 0$$

$$(x+2)^2 - 4 + 8y + 12 = 0$$

$$(x+2)^2 - 4 + 12 = -8y$$

$$(x+2)^2 = -8 - 8y$$

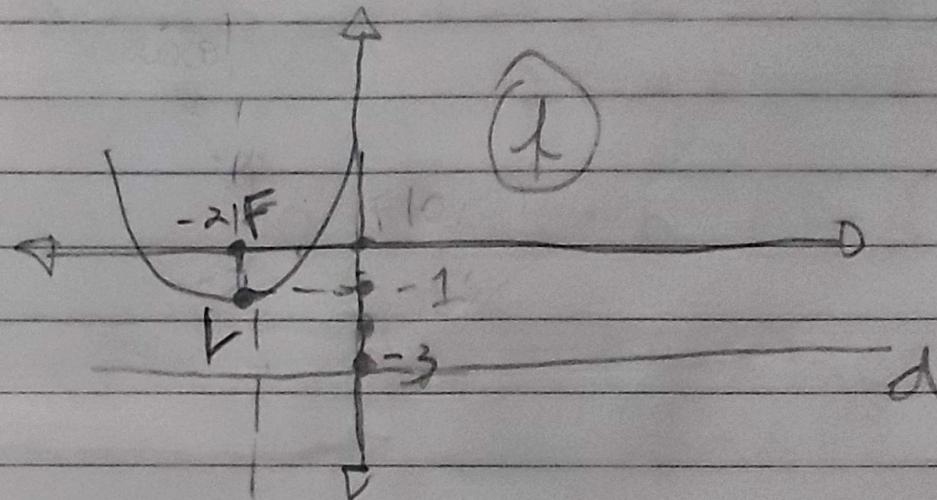
a) $(x+2)^2 = -8(y+1)$

b) V(-2, -1)

c) F(-2, 0)

d) d: $y = -3$

e) axis: $x = -2$



FORON:

$$28) x^2 - 2x - 20y - 39 = 0$$

$$(x-1)^2 - 0 \cdot x^2 - 2x + 1$$

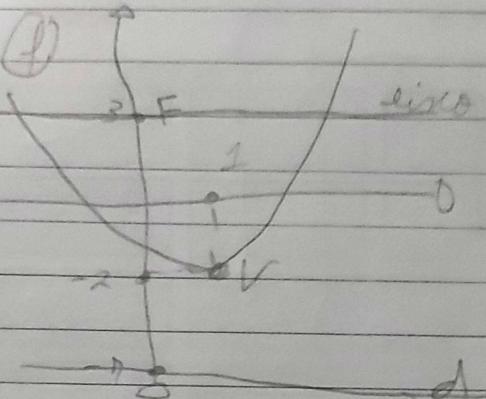
$$(x-1)^2 - 1 - 39 = 20y$$

$$(x-1)^2 = 20y + 40$$

$$a) (x-1)^2 = 20(y+2)$$

$$\begin{cases} a = 2 \\ k = -2 \end{cases}$$

$$2p = 20 \quad p = 10 \quad g = 5$$



$$b) V(1, -2)$$

$$c) F(0, 3)$$

$$d) d: y = -5$$

$$e) \sin \theta = y = 3$$

$$29) y^2 + 4y + 16x - 44 = 0$$

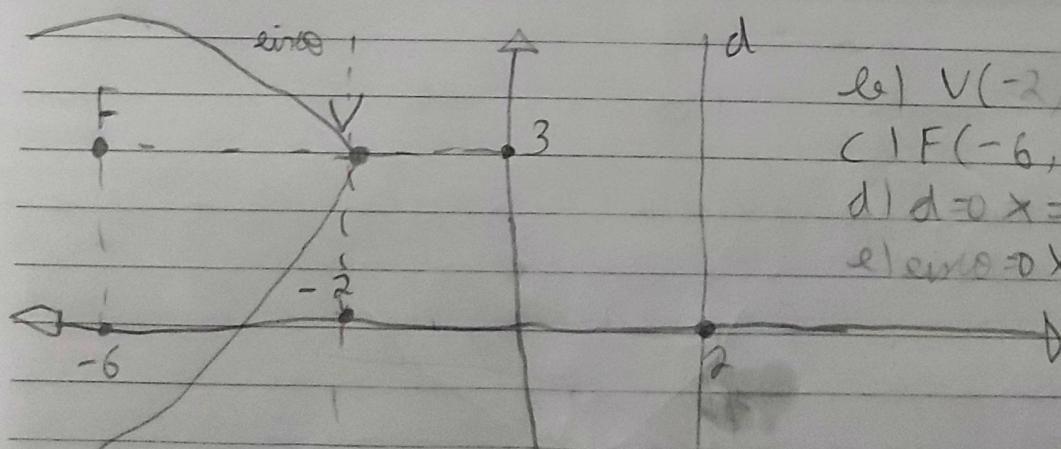
$$(y+2)^2 + 16x - 44 = 0$$

$$(y+2)^2 - 4 + 16x - 44 =$$

$$(y+2)^2 = 48 - 16x$$

$$a) (y+2)^2 = -16(x-3)$$

$$\begin{cases} a = -2 & 2p = 16 \\ k = +3 & p = -8 \end{cases} \quad \frac{p}{2} = -4$$



$$b) V(-2, 3)$$

$$c) F(-6, 3)$$

$$d) d: x = 2$$

$$e) \sin \theta = x = -2$$



③ ① $y^2 - 16x + 2y + 49 = 0$

$$y^2 + 2y = -16x - 49 + 1$$

$$\begin{cases} a = -1 \\ k = +3 \end{cases}$$

$$2p = 26 / p = 13 / \frac{p}{2} = 4$$

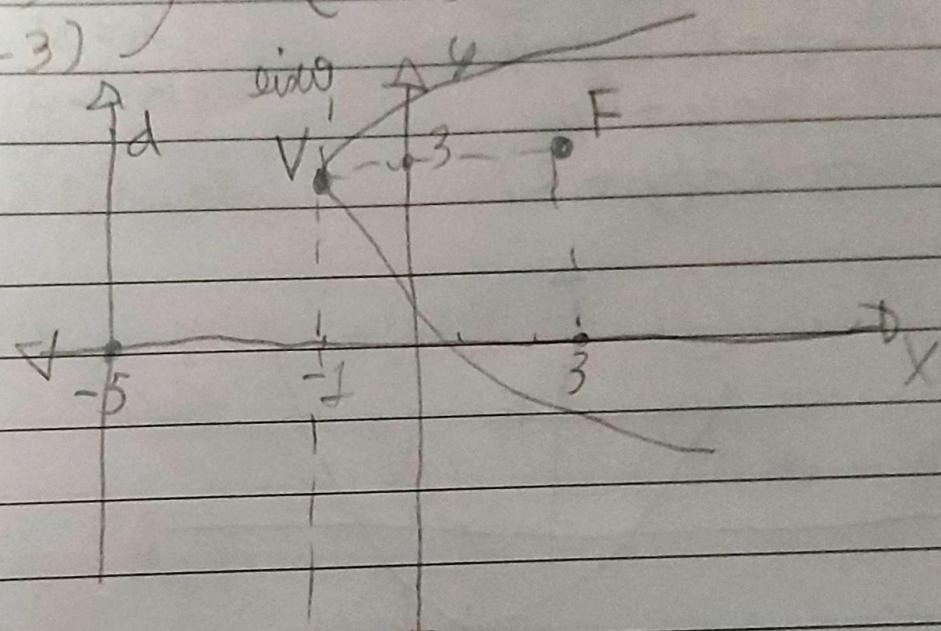
a) $(y+1)^2 = 26(x-3)$

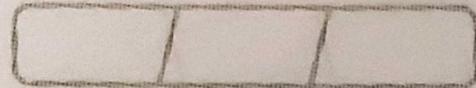
b) V(-1, 3)

c) F(3, 3)

d) d = 0 $x = -5$

e) line $\Rightarrow x = -2$





31) $y = \frac{x^2}{4} - 2x - 1$

$$4y = x^2 - 8x - 4$$

$$\begin{aligned} x^2 - 8x - 4 &= 4y \\ (x-4)^2 - 16 - 4 &= 4y \end{aligned}$$

$$(x-4)^2 - 16 - 4 = 4y$$

$$(x-4)^2 = 4y + 20$$

a) $(x-4)^2 = 4(y+5)$

b) $V(4, -5)$

c) $F(4, -4)$

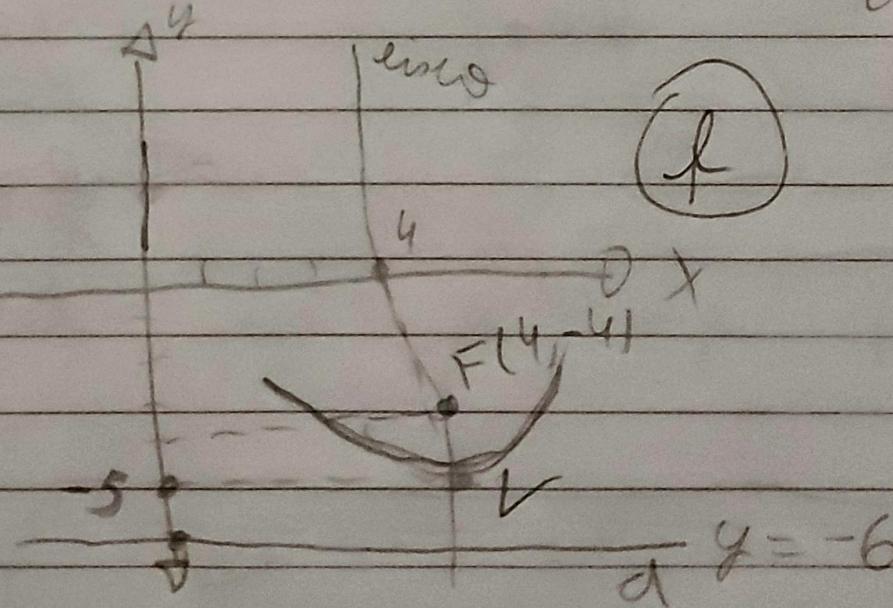
d) $d:y = -6$

e) axis: $x = 4$

$$h = 4$$

$$k = -5$$

$$2p = 4 \quad p = 2 \quad \frac{p}{2} = 1$$



(32) $x^2 - 12y + 72 = 0 \rightarrow \begin{cases} A=1 \\ K=6 \end{cases} \quad 2P=12 \quad p=6 \quad \frac{p}{2}=3$

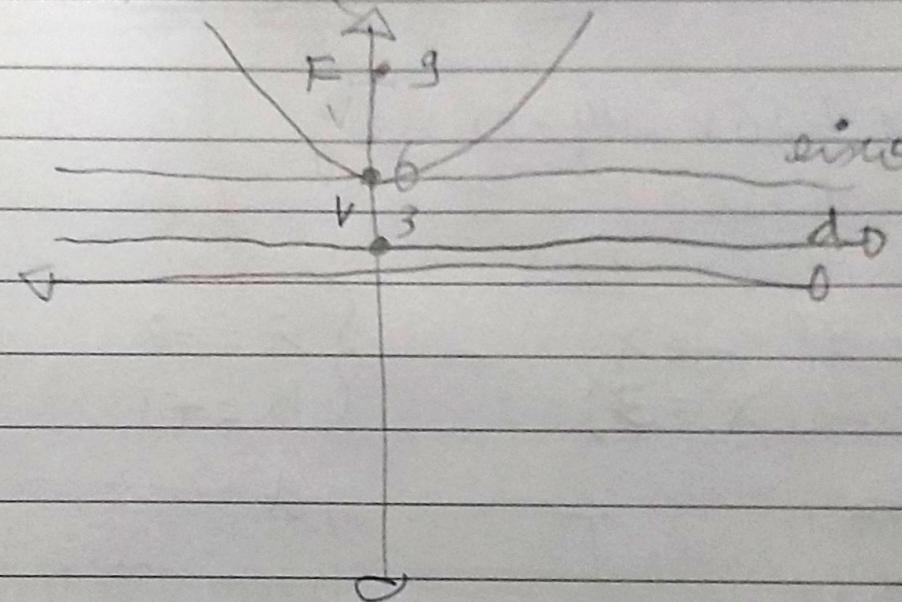
a) $(x+0)=12(y-6)$

b) $V(0, 6)$

c) $F(0, 9)$

d) $d: y=3$

e) $\text{eixo: } y=6$



(33) $y=x^2-4x+2 \rightarrow \begin{cases} h=2 \\ K=2 \end{cases} \quad 2P=1 \quad p=\frac{1}{2} \quad \frac{p}{2}=\frac{1}{4}$

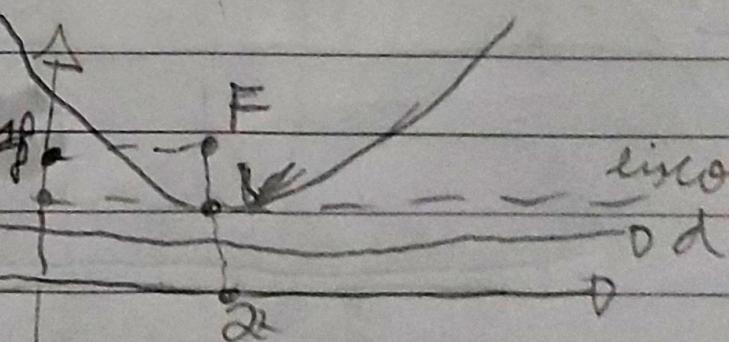
a) $(y-2)=(x-2)^2$

b) $V(2, 2)$

c) $F(2+\frac{1}{4}) \rightarrow (2, \frac{17}{4})$

d) $d: y=2-\frac{1}{4} \rightarrow y=-\frac{1}{4}$

e) $\text{eixo: } y=2$



$$\begin{array}{r|rr} & 2 & 4 \\ \hline 1 & 2 & 2 \\ & 2 & 4 \end{array}$$

$$\frac{-8-1}{4} = \frac{-9}{4}$$

(34) $y = 4x - x^2$ $\rightarrow \begin{cases} h = -4 \\ k = -2 \end{cases}$ $2p = -2 \quad p = -1 \quad \frac{p}{2} = -\frac{1}{2}$

b) $V(-4, -2)$

c) $F(-4, -2 - \frac{1}{4}) = (-4, -\frac{9}{4})$

d) $d_{AB} = 2 - \frac{1}{4}$

e) $eiro = 4 = 2$

